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CATALOGUE NO. I, OF NEBULÆ DISCOVERED AT  
THE LOWE OBSERVATORY, CALIFORNIA,  
FOR 1900.

BY DR. LEWIS SWIFT, Director.

Since the removal of my astronomical instruments from the Warner Observatory, at Rochester, N. Y., to the Lowe Observatory, Echo Mountain, Cal., I have, besides entertaining visitors, devoted much time to comet-seeking, with my  $4\frac{1}{2}$ -inch, and as a pastime, that an old habit may not entirely languish, have also at odd spells continued my former work of searching for new nebulae, resulting in the following list. My low latitude  $+34^{\circ}20'$ , enables me to work in fields beyond the reach of Sir WILLIAM HERSCHEL, or of his son Sir JOHN, except while sojourning at the Cape of Good Hope. Scarcely any of these nebulae can be classified as bright, and but very few are of HERSCHEL's Class II, while the large majority are much fainter than his Class III, and therefore visible only during exceptionally fine seeing, with large telescopes, and by an eye long trained in this kind of work.

The eye-piece used is a periscopic by the GUNDLACH Optical Co. of Rochester, N. Y., giving a magnifying power of 132 and a field of  $32'$ . Its large flat field renders it admirably adapted for nebular work, and for comet-seeking it cannot be excelled.

No.	DATE.	h m s	° ' "			DESCRIPTION.
			°	'	"	
1	Sept. 12, '96	0 1 40	—	4 19 10		pB. vS. vE.
2	Dec. 8, '95	0 18 3	+	6 25 35		eeF. unequal D*f 46 <sup>s</sup> same parallel.
3	Sept. 10, '95	0 30 0	—	10 7 0		eeeF. pS. R. eedif.
4	Sept. 5, '96	0 38 30	—	4 41 53		eeF. S. R. 10 <sup>m</sup> * close s. Not 239.
5	Sept. 18, '95	0 53 22	—	12 43 17		eeF. pS. nearly bet. a 7 <sup>m</sup> * p & a 9 <sup>m</sup> * nf. near the latter.
6	Dec. 13, '95	0 56 40	—	16 9 6		pF. S. R. 9 <sup>m</sup> * nearly in contact np.
7	Oct. 6, '96	1 12 45	—	17 38 12		eF. 8 <sup>m</sup> * in field nf. p S. R. no * near.
8	Dec. 18, '95	1 14 20	—	17 22 28		vF. pS. 1E. wide D* near nf. f of 2.
9	Dec. 18, '95	1 14 40	—	17 37 25		eeF. vS. R. p a 7 <sup>m</sup> * nf. 47 <sup>s</sup> . p of 2.
10	Oct. 12, '96	1 20 30	+	16 4 42		eeeF. pS. 1E. bet. 2*'s in meridian, wide D star in field nf. eedif.
11	Oct. 8, '96	1 43 10	—	27 26 42		pB. eeS. almost stellar, in vacancy.
12	Dec. 8, '95	1 46 45	—	10 20 0		eeF. vS. G. C. 418 p.
13	Dec. 18, '95	1 55 5	—	11 36 25		eeF. pS. bet. the 2 southern of 4 stars forming a trapezium.

NO.	DATE.	h m s	° ' "	DESCRIPTION.
14	Oct. 8,'96	1 56 8	— 25 34 40	eeeF. pS. R. 3 9 <sup>m</sup> *'s near sf. form an equilateral triangle, eedif.
15	Oct. 8,'96	2 2 55	— 25 57 32	vF. D * in neb'y, both *'s = m. but of extreme faintness—Curious object.
16	Oct. 12,'96	2 11 20	— 12 24 55	eeF. eeE. bet. 2 *'s p&f. 8 <sup>m</sup> * near nf. a ray.
17	Oct. 12,'96	2 27 50	— 37 11 40	vF. S. κ. wide D * near np.
18	Sept. 16,'96	3 0 20	— 27 52 35	eeF. vS. R. F* near sf.
19	Oct. 8,'96	3 5 8	— 25 42 30	eeF. pS. 2 stars in meridian close p.
20	Oct. 8,'96	3 36 45	— 22 55 35	vF. pS. R. Not G. C. 765.
21	Oct. 5,'96	3 37 1	— 18 32 20	eeF. S. R. in vacancy.
22	Oct. 5,'96	3 51 1	— 28 30 25	eF. vS. eeeF * v close nf.
23	Dec. 10,'95	4 10 32	— 33 22 25	eeef. eS. B * f. 1532 p. eedif. 3 in field including D neb.
24	Dec. 9,'95	4 23 3	— 42 23 15	eF. pL. R. 3 stars like belt of Orion point to it, p of 2.
25	Oct. 5,'96	4 41 2	— 34 10 43	vF. pS. R. 3 stars in line near sp. nearly point to it.
26	Oct. 13,'96	5 27 30	— 23 14 40	eF. pL. R. 8 <sup>m</sup> * near nf.
27	Oct. 16,'96	5 27 40	— 17 20 3	pF. vS. R. bet. 2 stars p & f.
28	Dec. 9,'95	5 29 35	— 26 30 45	vF. pS. eE. almost a ray, 1963 p.
29	May 26,'95	15 15 10	— 23 19 50	eeeF. vL. not 5898 nor 5903 vdif. bet. 2 wide D *'s n&s. 10 <sup>m</sup> * eef. no * in field p.
30	Aug. 12,'96	20 58 49	+ 11 25 15	eeeF. vS. p 8 <sup>m</sup> * 13 <sup>s</sup> same parallel, wide D * nr n. eedif.
31	Sept. 12,'96	21 25 40	+ 11 20 15	eeF. vS. F* near f. Not 7068.
32	Aug. 8,'96	22 15 19	— 14 54 5	vF. eE. a ray, p of 2.
33	Aug. 8,'96	22 16 30	— 19 25 20	eeeF. vS. R. f below * 15 <sup>s</sup> little s. f of 2.
34	June 8,'96	22 16 45	— 19 23 20	eF. S. nr n of fol * of 7 in a line p&f. p of 2.
35	Aug. 8,'96	22 26 54	— 14 38 5	pB. pS. R. pB * near s. f of 2.
36	Sept. 12,'96	22 49 10	— 20 55 15	eeeF. pL. R. f 9 <sup>m</sup> * 22 <sup>s</sup> eedif.
37	Sept. 2,'96	22 51 5	— 37 8 48	vF. S. eeE. a rays. p of below stars. sf of 2.
38	Sept. 2,'96	22 51 10	— 37 3 45	B. Cl. R. bet 2 *'s p & f, np of 2.
39	Sept. 2,'96	22 52 0	— 36 27 40	vF. ps. R. np of 2.
40	Aug. 12,'96	22 52 5	— 36 37 40	vF. pS. vE. sf of 2.
41	Aug. 12,'96	22 53 40	— 38 17 50	vF. Cl. 1E, 2 wide D stars near p.
42	Sept. 10,'96	23 5 30	— 33 5 15	a few eeeF stars in neb.
43	Sept. 13,'96	23 21 0	— 18 36 0	eF. vS. R. F * p close np.
44	Sept. 14,'96	23 24 10	— 29 25 57	eeeF. S. vE. 8 <sup>m</sup> * p.
45	Sept. 14,'96	23 41 40	— 28 32 55	eeeF. eS. R. 9 <sup>m</sup> * near f, same parallel, 1st of 5.
46	Sept. 14,'96	23 42 0	— 28 42 16	eeF. S. R. a 6 <sup>m</sup> * with dis com. f, 2nd of 5.
47	Sept. 14,'96	23 42 5	— 28 42 56	eeF. S. R. 3rd of 5.
48	Sept. 14,'96	23 42 20	— 28 43 55	eF. pS. E. 4th of 5.
49	Sept. 14,'96	23 45 0	— 28 54 57	eeF. pS. nearly bet. an 8 <sup>m</sup> * nf & a 9 <sup>m</sup> * sp. nearer the former, 5th of 5.
50	Sept. 15,'96	23 51 0	— 29 37 55	vF. pS. R. 8 <sup>m</sup> * near sf.

## REMARKS.

No. 15. Found searching for Comet 1889 BROOKS after POOR's ephemeris; saw it again June 10, 1896.

No. 33. Found searching for BROOKS's comet 1889.

No. 34. Found searching for BROOKS's comet 1889.

No. 41. Neither this nor the four preceding nebulae are in N. G. C. No. 38 may possibly = No. 1459 of DREYER's index catalogue.

IS *MARS* INHABITED?

BY PROFESSOR C. A. YOUNG.

For some reason not quite obvious to the professional astronomer, there seems to be an extreme popular interest in the question of the habitability of "other worlds," and of late it has been greatly intensified by the rather sensational speculations and deliverances of FLAMMARION, LOWELL, and others—speculations based upon new discoveries reported within the last ten or fifteen years, some of which are doubtless real, while others are still more or less questionable.

The editor of the *Herald* has done me the honor to ask me to say to his readers what I think about the matter, and I accept the invitation with pleasure.

I may as well say at the outset that in my judgment we have not yet any satisfactory basis for a confident opinion. The available data are insufficient, and, what is worse, they in some cases seem to indicate opposite conclusions.

As to the general question whether the stars and planets are the abodes of life, we can, of course, say positively on the one hand that they may be. Plainly the Omnipotent Deity can, if He sees fit, organize forms of life suited to any possible conditions, creatures that might flourish in the solar fire, or in nebular fog. On the other hand, there is not the slightest valid evidence that such creatures exist. Considering the "vast emptinesses" between the stars, and the lifeless ages of the Earth's early history, as revealed by geology, one cannot argue that material globes must be inhabited. Unoccupied space, lifeless millenniums, and worlds uninhabited all fall into the same category of unexplained use.